Listing of the claims:

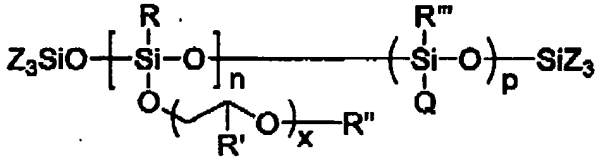
1. (original) An electrochemical device, comprising:
a blended electrolyte including one or more polyalkylene glycol dialkyl ethers, one or more alkali metal salts, and one or more siloxane polymers.

2. (original) The device of claim 1, wherein the one or more polyalkylene glycol dialkyl ethers includes one or more polyethylene glycol dialkyl ethers.

3. (original) The device of claim 1, wherein the one or more siloxane polymers includes one or more poly(siloxane alkylene oxide)s.

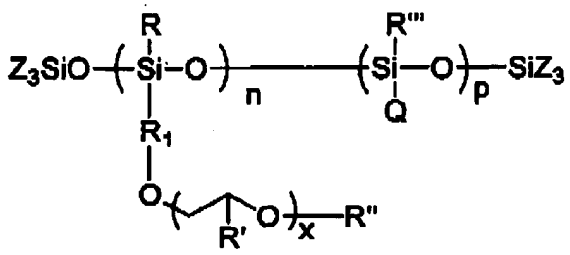
4. (original) The device of claim 1, wherein the one or more siloxane polymers includes one or more poly(siloxane-*g*-ethylene oxide).

5. (original) The device of claim 1, wherein the siloxane polymer includes at least one material selected from the group consisting of those represented by the following Formulas I - VI:
Formula I:



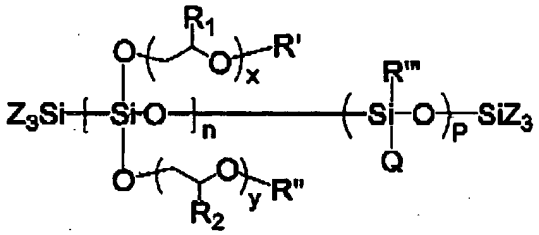
where, R and R" are alkyl groups and R' is hydrogen or an alkyl group; R''' is alkyl or hydrogen; Q is hydrogen or a cross-linker; p is 0 or greater than 0; n is from 1 to 100; x is from 1 to 30; and Z is an alkyl or aryl group;

Formula II:



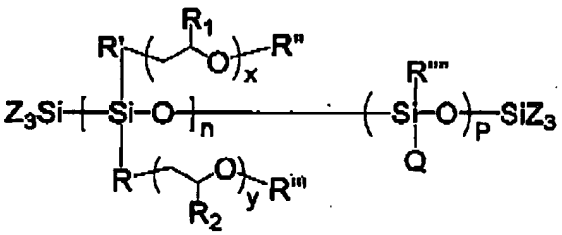
where, R and R" are alkyl groups and R' is hydrogen or an alkyl group; R_1 is a spacer made up of one or more CH_2 groups; R''' is alkyl or hydrogen; Q is hydrogen or a cross-linker; p is 0 or greater than 0; n is from 1 to 100; x is 2 to 25; and Z is an alkyl or aryl group;

Formula III:



wherein R'' and R' are alkyl groups; R_1 and R_2 are hydrogen or alkyl group; R''' is alkyl or hydrogen; Q is hydrogen or a cross-linker; p is 0 or greater than 0; n is from 1 to 100; x is from 1 to 30; y is from 1 to 30; Z is alkyl or aryl group;

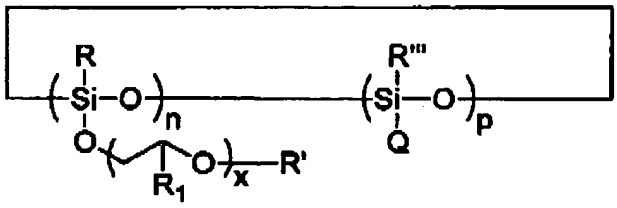
Formula IV:



wherein R is a spacer made up of one or more CH_2 groups; R' is a spacer made up of one

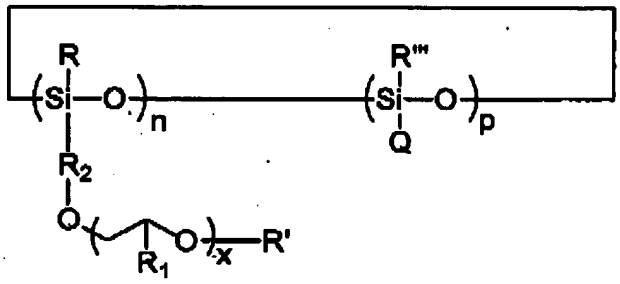
or more CH_2 groups; R" and R"' are alkyl group; R_1 and R_2 are hydrogen or alkyl group; R'''' is alkyl or hydrogen; Q is hydrogen or a cross-linker; p is 0 or greater than 0; n is from 1 to 100; x is from 1 to 30; y is from 1 to 30; Z is alkyl or aryl group; and

Formula V:



wherein R and R' are alkyl groups; R_1 is hydrogen or alkyl group; R''' is alkyl or hydrogen; Q is hydrogen or a cross-linker; p is 0 or greater than 0; n is from 1 to 100; x is from 1 to 30; R' is an alkyl or aryl group; and

Formula VI:



wherein R and R' are alkyl groups; R_1 is hydrogen or an alkyl group; R_2 is a spacer made up of one or more CH_2 groups; R''' is alkyl or hydrogen; Q is hydrogen or a cross-linker; p is 0 or greater than 0; n is from 1 to 100; x is from 1 to 30; R' is an alkyl or aryl group.

6. (original) The device of claim 5, wherein the siloxane polymer includes at least two materials selected from the group consisting of those represented by Formulas I - VI.

7. (original) The device of claim 5, wherein the one or more polyalkylene glycol dialkyl ethers includes at least one material selected from the group consisting of those represented by Formula I.

8. (original) The device of claim 5, wherein the one or more polyalkylene glycol dialkyl ethers includes at least one material selected from the group consisting of those represented by Formula II.

9. (original) The device of claim 5, wherein the one or more polyalkylene glycol dialkyl ethers includes at least one material selected from the group consisting of those represented by Formula III.

10. (original) The device of claim 5, wherein the one or more polyalkylene glycol dialkyl ethers includes at least one material selected from the group consisting of those represented by Formula IV.

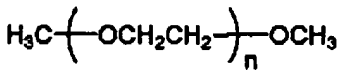
11. (original) The device of claim 5, wherein the one or more polyalkylene glycol dialkyl ethers includes at least one material selected from the group consisting of those represented by Formula V.

12. (original) The device of claim 5, wherein the one or more polyalkylene glycol dialkyl ethers includes at least one material selected from the group consisting of those represented by Formula VI.

13. (original) The device of claim 5, wherein Z is methyl, ethyl, propyl or phenyl group.

14. (original) The device of claim 5, wherein the one or more polyalkylene glycol dialkyl ethers includes at least one material selected from the group consisting of those represented by the following Formula IX:

Formula IX:



wherein n = 3 to 8.

15. (original) The device of claim 1, wherein the molecular weight of polyalkylene glycol dialkyl ether is less than 1,000 g/mol.

16. (original) The device of claim 1, wherein the content of polyalkylene glycol dialkyl ether is in a range of 0.5 to 99.5 % of the total weight of polymer in the electrolyte.

17. (original) The device of claim 1, wherein the content of polyalkylene glycol dialkyl ether is in a range of 20 % to 60 % of the total weight of polymer in the electrolyte.

18. (original) The device of claim 1, wherein the one or more alkali metal salts includes a lithium salt.

19. (original) The device of claim 18, wherein a ratio of [EO]/[Li] in the electrolyte is in a range of 5 to 50.

20. (original) The device of claim 1, wherein the one or more alkali metal salts includes one or more components selected from the group consisting of $LiClO_4$, $LiBF_4$, $LiAsF_6$, $LiPF_6$, $LiCF_3SO_3$, $Li(CF_3SO_2)_2N$, $Li(CF_3SO_2)_3C$, $LiN(SO_2C_2F_5)_2$, lithium alkyl fluorophosphates, and lithium bis(chelato)borates.

21. (original) The device of claim 1, wherein at least one of the one or more siloxane polymers is cross-linked.

22. (original) The device of claim 1, wherein the one or more siloxane polymers includes at least two siloxane polymers and at least one of the siloxane polymers is cross-linked.

23. (original) The device of claim 1, wherein at least one of the one or more siloxane polymers is cross-linked with a cross-linker that includes a moiety selected from a group consisting of moieties having the formula $O-(CH_2CH_2O)_q$ and $Si-O-(Si-O)_k-Si$ where q is in a range of 4 to 30 and k is in a range of 5 to 30.

24. (original) The device of claim 1, wherein at least one of the one or more siloxane polymers and the one or more polyalkylene glycol dialkyl ethers serves a member of an interpenetrating network.

25. (original) The device of claim 1, wherein the electrolyte includes one or more network polymers forming an interpenetrating network with at least one other polymer selected from the group consisting of the one or more siloxane polymers and the one or more polyalkylene glycol dialkyl ethers.

26. (original) The device of claim 25, wherein at least one of the one or more network polymers is selected from a group consisting of a polyacrylate and a polymethacrylate.

27. (original) The device of claim 26, wherein at least one of the one or more network polymers is cross-linked.

28. (original) The device of claim 25, wherein at least one of the one or more network polymers is selected from the group consisting of polyacrylates and polymethacrylates.

29. (original) The device of claim 25, wherein at least one of the one or more network polymers is selected so as to be fabricated from a monomer having four or more functionalities.

30. (original) The device of claim 1, further comprising:
one or more matrix polymers.

31. (original) The device of claim 30, wherein the one or more matrix polymers includes at least one component selected from the group consisting of: polyacrylonitrile, poly(vinylidene fluoride), poly(vinylidene fluoride-co-hexafluoropropylene), polystyrene, polyvinyl chloride, poly(alkyl methacrylate), poly(alkyl acrylate), styrene butadiene rubber (SBR), and poly(vinyl acetate).

32. (original) The device of claim 1, wherein the electrolyte is a solid.

33. (currently amended) The device of claim 1, further comprising:
at least one lithium metal oxide cathode;

at least one porous separator; and

at least one anode including at least one material selected from the group consisting of: graphite, ~~soft carbon, hard carbon,~~ $Li_4Ti_5O_{12}$, tin alloys, silica alloys, intermetallic compounds, and lithium metal.

34. (original) The electrochemical device of claim 33, wherein the lithium metal oxide cathode includes at least one material selected from the group consisting of Li_xVO_y, $LiCoO_2$, $LiNiO_2$, $LiMn_{0.5}Ni_{0.5}O_2$, $LiMn_{0.3}Co_{0.3}Ni_{0.3}O_2$, $LiFePO_4$, $LiMn_2O_4$, $LiFeO_2$, vanadium oxide, $LiNi_{1-x}Co_yMe_zO_2$ wherein Me is Al, Mg, Ti, B, Ga, Si Mn, Zn, and $LiMc_{0.5}Mn_{1.5}O_4$ wherein Mc is divalent metal such as Ni, Co, Fe, Cr, and Cu.

35. (original) A method of forming an electrochemical device, comprising:
forming a blended electrolyte including one or more polyalkylene glycol dialkyl ethers, one or more alkali metal salts, and one or more siloxane polymers; and

activating at least one anode and at least one cathode with the blended electrolyte.

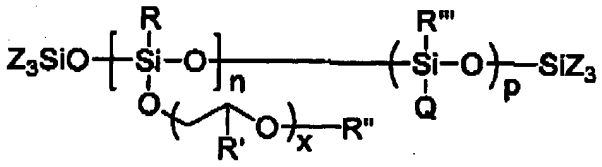
36. (original) The method of claim 35, wherein the one or more polyalkylene glycol dialkyl ethers includes one or more polyethylene glycol dialkyl ethers.

37. (original) The method of claim 35, wherein the one or more siloxane polymers includes one or more poly(siloxane alkylene oxide)s.

38. (original) The method of claim 35, wherein the one or more siloxane polymers includes one or more poly(siloxane-*g*-ethylene oxide).

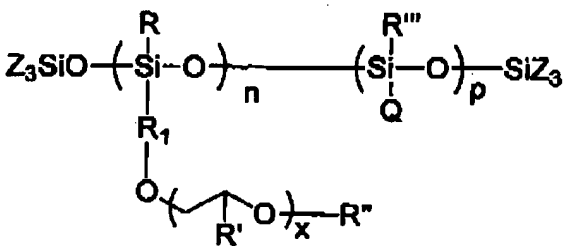
39. (original) The method of claim 35, wherein the siloxane polymer includes at least one material selected from the group consisting of those represented by the following Formulas I - VI:

Formula I:



where, R and R" are alkyl groups and R' is hydrogen or an alkyl group; R''' is alkyl or hydrogen; Q is hydrogen or a cross-linker; p is 0 or greater than 0; n is from 1 to 100; x is from 1 to 30; and Z is an alkyl or aryl group;

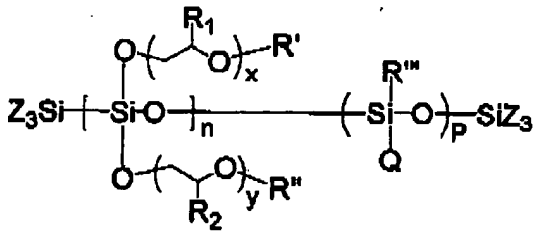
Formula II:



where, R and R" are alkyl groups and R' is hydrogen or an alkyl group; R_1 is a spacer made up of one or more CH_2 groups; R''' is alkyl or hydrogen; Q is hydrogen or a cross-linker; p is 0 or greater than 0; n is from 1 to 100; x is 2 to 25; and Z is an alkyl or aryl

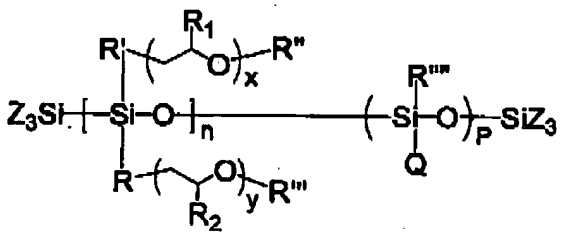
group;

Formula III:



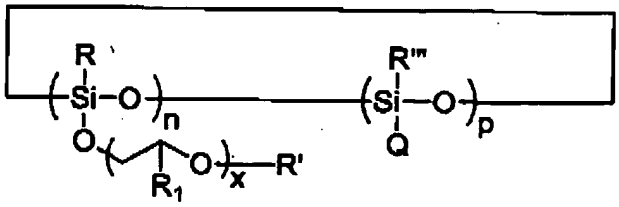
wherein R'' and R' are alkyl groups; R_1 and R_2 are hydrogen or alkyl group; R''' is alkyl or hydrogen; Q is hydrogen or a cross-linker; p is 0 or greater than 0; n is from 1 to 100; x is from 1 to 30; y is from 1 to 30; and Z is alkyl or aryl group;

Formula IV:



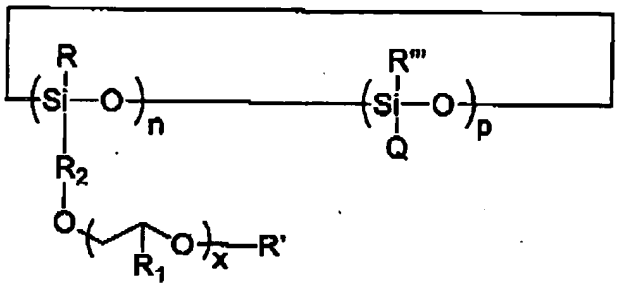
wherein R is a spacer made up of one or more CH_2 groups; R', R" and R"' are alkyl group; R_1 and R_2 are hydrogen or alkyl group; R'''' is alkyl or hydrogen; Q is hydrogen or a cross-linker; p is 0 or greater than 0; n is from 1 to 100; x is from 1 to 30; y is from 1 to 30; and Z is alkyl or aryl group; and

Formula V:



wherein R and R' are alkyl groups; R_1 is hydrogen or alkyl group; R''' is alkyl or hydrogen; Q is hydrogen or a cross-linker; p is 0 or greater than 0; n is from 1 to 100; x is from 1 to 30; and R' is an alkyl or aryl group; and

Formula VI:



wherein R and R' are alkyl groups; R_1 is hydrogen or an alkyl group; R_2 is a spacer made up of one or more CH_2 groups; R''' is alkyl or hydrogen; Q is hydrogen or a cross-linker; p is 0 or greater than 0; n is from 1 to 100; x is from 1 to 30; and R' is an alkyl or aryl group.

40. (original) The method of claim 39, wherein the siloxane polymer includes at least two materials selected from the group consisting of those represented by Formulas I - VI.

41. (original) The method of claim 39, wherein the one or more polyalkylene glycol dialkyl ethers includes at least one material selected from the group consisting of those represented by Formula I.

42. (original) The method of claim 39, wherein the one or more polyalkylene glycol dialkyl ethers includes at least one material selected from the group consisting of those represented by Formula II.

43. (original) The method of claim 39, wherein the one or more polyalkylene glycol dialkyl ethers includes at least one material selected from the group consisting of those represented by Formula III.

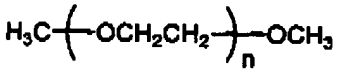
44. (original) The method of claim 39, wherein the one or more polyalkylene glycol dialkyl ethers includes at least one material selected from the group consisting of those represented by Formula IV.

45. (original) The method of claim 39, wherein the one or more polyalkylene glycol dialkyl ethers includes at least one material selected from the group consisting of those represented by Formula V.

46. (original) The method of claim 39, wherein the one or more polyalkylene glycol dialkyl ethers includes at least one material selected from the group consisting of those represented by Formula VI.

47. (original) The method of claim 39, wherein Z is methyl, ethyl, propyl, or phenyl group.

48. (original) The method of claim 39, wherein the one or more polyalkylene glycol dialkyl ethers includes at least one material selected from the group consisting of those represented by the following Formula IX:
Formula IX:



wherein n = 3 to 8.

49. (original) The method of claim 39, wherein the electrolyte is formed such that the content of polyalkylene glycol dialkyl ether is in a range of 20 % to 60 % of the total weight of polymer in the electrolyte.

50. (original) The method of claim 35, wherein the electrolyte is formed with an ratio of [EO]/[Li] in a range of 5 to 50.

51. (original) The method of claim 35, wherein forming the electrolyte includes cross-linking at least one of the one or more siloxane polymers.

52. (original) The method of claim 51, wherein at least one of the one or more siloxane polymers is cross-linked with a cross-linker that includes a moiety selected from a group consisting of moieties having the formula $O\text{-}(CH_2CH_2O)_q$ and $Si\text{-}O\text{-}(Si\text{-}O)_k\text{-}Si$ where q is at least 4 and less than 30 and k is at least 5 and less than 30.

53. (original) The method of claim 51, wherein cross-linking at least one of the one or more siloxane polymers includes obtaining at least one siloxane polymer having a portion of the main chain silicons bonded to a hydrogen.

54. (original) The method of claim 35, wherein forming the electrolyte includes forming an interpenetrating network.

55. (original) The method of claim 54, wherein forming the interpenetrating network includes using the interpenetrating network polymerization method.

56. (original) The method of claim 54, wherein the interpenetrating network is formed such that one or more network polymers forms the interpenetrating network with at least one polymer selected from the group consisting of the one or more siloxane polymers and the one or more polyalkylene glycol dialkyl ethers.

57. (original) The method of claim 56, wherein forming the forming the interpenetrating includes cross-linking at least one of the one or more network polymers.

58. (original) The method of claim 56, wherein at least one of the network polymers is selected from the group consisting of a polyacrylate and a polymethacrylate.

59. (original) The method of claim 35, wherein the blended electrolyte includes one or more matrix polymers.

60. (original) The method of claim 35, wherein the one or more matrix polymers includes at least one component selected from the group consisting of polyacrylonitrile, poly(vinylidene fluoride), poly(vinylidene fluoride-co-hexafluoropropylene), polystyrene, polyvinyl chloride, poly(alkyl methacrylate), poly(alkyl acrylate), styrene butadiene rubber (SBR), and poly(vinyl acetate).

61. (original) The method of claim 35, wherein forming the blended electrolyte includes converting a liquid to a solid blended electrolyte.

62. (original) The method of claim 35, wherein

the at least one cathode includes a lithium metal oxide cathode; and

the at least one anode includes at least one material selected from the group consisting of: graphite, soft carbon, hard carbon, $Li_4Ti_5O_{12}$, tin alloys, silica alloys, intermetallic compounds, and lithium metal.